AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An engine transition test instrument comprising:

a virtual engine tester for simulating a transition state of a virtual engine in which a rotational speed or torque of the virtual engine changes with time;

an actual engine transition tester for conducting transition testing using an actual engine; and

an actual controller <u>having a predetermined control map to output engine control signals</u> for controlling the actual engine, wherein

the virtual engine tester comprises:

a simulator for simulating the behavior of the virtual engine by creating a transition engine model based on data obtained by driving the actual engine while changing a value of at least one controlled factor; and

a virtual controller that emulates the actual controller and supplies an engine control signal to the tester simulator, and

the actual engine transition tester comprises a means for switching to the engine control signal output from the virtual controller from a corresponding portion of [[an]] <u>the</u> engine control <s>signal</s> <u>signals</u> output from <u>the control map of</u> the actual controller for controlling the actual engine, and supplying a switched signal to the actual engine.

2. (Previously Presented) The engine transition test instrument according to claim 1, wherein the virtual engine tester further comprises a control value operation means for supplying a control value for a controlled factor to the virtual controller, to cause simulation results by the simulator to be displayed on a display means.

3. (Previously Presented) The engine transition test instrument according to claim 1, wherein the actual controller is configured so as to perform feed back control with referencing the output value of the actual engine and the instrument comprises a means for correcting the output value from the actual engine that has changed when the engine control signal output from the virtual controller was supplied to the actual engine to a value before such a change was made, and feeding back the corrected value to the actual controller.

4. (Currently Amended) An engine transition test method comprising:

a first step of creating a transition engine model based on data obtained by driving an actual engine while changing a value of at least one controlled factor in a transition state in which an engine rotational speed or torque changes with time;

a second step of emulating an actual controller controlling the actual engine, the actual controller having a predetermined control map to output engine control signals, generating an engine control signal based on a control value set for the at least one controlled factor, and operating the transition engine model as a virtual engine; and

a third step of switching to the engine control signal generated in the second step from a corresponding portion of [[an]] the engine control signal signals output from the means for controlling the actual engine controller, and supplying the switched signal to the actual engine.

5. (Previously Presented) The engine transition test method according to claim 4, wherein the second step is repeated while changing the control value, and the third step is performed when the output value from the virtual engine satisfies objective performance.

6. (Previously Presented) The engine transition test method according to claim 4, wherein the output value from the actual engine that has changed when the engine control signal generated in the second step was supplied to the actual engine is corrected to a value before such a change was made, and the corrected value is fed back to the actual controller.

7. (Currently Amended) A computer readable medium having instructions for causing an information processing system to perform steps comprising:

creating a transition engine model based on data obtained by driving an actual engine while changing a value of at least one controlled factor in a transition state in which an engine rotation speed or torque changes with time;

emulating an actual controller <u>having a predetermined control map to output engine control signals</u> that controls an actual engine<u>;</u>

generating an engine control signal based on a control value set for the <u>at least one</u> controlled factor; [[and]]

operating the transition engine model as a virtual engine; and

switching to the engine control signal generated ~~in the second step~~ from a corresponding portion of [[an]] <u>the</u> engine control ~~signal~~ <u>signals</u> output from <u>the control map of</u> the actual controller, and thereby supplying the switched signal to the actual engine.

8. (Canceled)